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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,588	05/10/2005	Kwang-Il Kim	11281-069-999	4447
20583	7590	06/09/2006	EXAMINER	
JONES DAY 222 EAST 41ST ST NEW YORK, NY 10017			LEPISTO, RYAN A	
			ART UNIT	PAPER NUMBER
			2883	

DATE MAILED: 06/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/534,588

Applicant(s)

KIM ET AL.

Examiner

Ryan Lepisto

Art Unit

2883

-- **Th MAILING DATE of this communication appears on the cover sheet with the correspond nc address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) 1,4 and 7-9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 May 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date 5/10/05.
- 4) ☐ Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The listing of references in the Search Report is not considered to be an information disclosure statement (IDS) complying with 37 CFR 1.98. 37 CFR 1.98(a)(2) requires a legible copy of: (1) each foreign patent; (2) each publication or that portion which caused it to be listed; (3) for each cited pending U.S. application, the application specification including claims, and any drawing of the application, or that portion of the application which caused it to be listed including any claims directed to that portion, unless the cited pending U.S. application is stored in the Image File Wrapper (IFW) system; and (4) all other information, or that portion which caused it to be listed. In addition, each IDS must include a list of all patents, publications, applications, or other information submitted for consideration by the Office (see 37 CFR 1.98(a)(1) and (b)), and MPEP § 609.04(a), subsection I. states, "the list ... must be submitted on a separate paper." Therefore, the references cited in the Search Report have not been considered. Applicant is advised that the date of submission of any item of information or any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the IDS, including all "statement" requirements of 37 CFR 1.97(e). See MPEP § 609.05(a).

### ***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 3.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "8" and "9" have both been used to designate outer sheath (page 6 lines 14-16).

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action.

### ***Claim Objections***

3. **Claims 1, 4 and 7-9** are objected to because of the following informalities:
- All instances of the word "with" in claims 1 and 7 should be deleted.
  - In claim 4, the word "infinite" should be deleted since "infinite" is only a theoretical value and not actual repeatable or possible in practice.

- Claims 7-9 recite "the tubular buffer" when in the parent claim the buffer is referred to as "the at least one buffer". The claims should be changed to be consistent with terminology.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-5, 7 and 9** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Gravely et al (US 5,642,452)** (Gravely) in view of **Keller (US 6,167,180)**.

Gravely teaches a dielectric optical cable (Fig. 2B) comprising a central tensile member (12), optical fiber buffer loose tubes (14) enclosing optical fibers (16) in a water-blocking jelly (column 3 lines 17-18), a water-blocking tape (26) surrounding the buffer tubes (14), an inner sheath (18) surrounding the water-blocking tape (26), an outer tensile member (32B) surrounding the inner sheath (18) having a plurality of water-blocking Aramid yarns (32B) extending in the longitudinal direction in parallel without twisting (column 6 lines 1-2) and an outer sheath (36) surrounding the tensile member (32B) (column 3 lines 12-63, column 5 lines 54-67).

Gravely does not teach expressly that the yarn is connected by an adhesive epoxy resin.

Keller teaches a dielectric optical cable (Fig. 1) comprising a tensile member layer (18) made of adhesive yarns (20, 22, 24) and non-adhesive yarns (30, 32, 34, 36, 38, 40) for adhesively (using an epoxy resin like hot-melt or low melt temperature plastic) (column 3 lines 44-47) connecting the buffer tubes to an outer protective jacket (column 3 lines 19-22).

Gravely and Keller are analogous art because they are from the same field of endeavor, optical fiber cables with buffer tubes and surrounding jackets.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use the tensile layer taught by Keller in the cable taught by Gravely since Keller teaches that any particular yarn can be used in his teachings (column 3 lines 57-68) and since Gravely teaches using a outer yarn layer that needs to be adhered to an outer jacket also.

The motivation for doing so would have been to ease manufacturing complexities, meet industry temperature requirements, increase serviceability by allowing access to the buffer tubes, increase design flexibility by being able to use a wide range of materials, which all increase the manufacturing processing window or reduces the precision of the process tension control (Keller, column 2 lines 30-38).

With regard to claim 2: The limitation given patentable weight in this claim is the tensile member having an adhesive resin on/in it since the step of soaking the member is a process limitation in a product claim. Only the structure implied is considered in the case, which is taught by the combination of Gravely and Keller as previously discussed.

"[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted)

The structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where the product can only be defined by the process steps by which the product is made, or where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product. See, e.g., In re Garnero, 412 F.2d 276, 279, 162 USPQ 221, 223 (CCPA 1979).

5. **Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over Gravely in view of Keller as applied to claims 1-5, 7 and 9 above, and further in view of **Birkeland et al (US 6,714,709 B1)** (Birkeland).

Gravely in view of Keller teaches the optical cable previously discussed

Gravely in view of Keller does not teach expressly at least one polyethylene (PE) filler.

Birkeland teaches an optical fiber cable (Fig. 1) comprising PE filler elements (5) disposed between an inner strength member and an inner sheath and adjacent to optical buffer tubes for positing the tubes (column 3 line 64 – column 4 line 8).

Gravely in view of Keller and Birkeland are analogous art because they are from the same field of endeavor, optical fiber cables with buffer tubes and surrounding jackets

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use fillers as taught by Birkeland in the cable taught by Gravely in view of Keller since Gravely in view of Keller has gaps between the buffer tubes and inner sheath that creates the need for spacers to position the tubes.

The motivation for doing so would have been ensure a round cross section of the cable with a well-defined diameter and to improve stability (Birkeland, column 2 lines 33-43).

6. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Gravely in view of Keller as applied to claims 1-5, 7 and 9 above, and further in view of **Vyas et al (US 5,247,599)** (Vyas).

Gravely in view of Keller teaches the optical cable previously discussed

Gravely in view of Keller does not teach expressly a water-blocking jelly in the gaps between the buffer tubes and water blocking tape.

Vyas teaches an optical fiber cable (Fig. 1) comprising buffer tubes (14) surrounding a central strength member (12) wherein a water-blocking jelly material (22) fills the gaps between the buffer tubes (14) (column 2 lines 57-61).

Gravely in view of Keller and Vyas are analogous art because they are from the same field of endeavor, optical fiber cables with buffer tubes and surrounding jackets



At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use water-blocking jelly between the buffer tubes in Gravelly in view of Keller as taught by Vyas since Gravelly teaches this a well known manufacturing method in the art (column 1 lines 44-49).

The motivation for doing so would have been to prevent damage to the fibers by blocking liquids from penetrating the fibers (Gravelly, column 1 lines 44-49) with a tradeoff of the negative trait of extra weight for the cable (Gravelly).

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Arroyo et al (US 5,389,442) can be used as a primary reference instead of Gravelly. The following are pertinent to the state of the art: Arroyo et al (US 4,815,813), Kannabiran (US 5,148,509), Nelson et al (US 5,822,485).

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan Lepisto whose telephone number is (571) 272-1946. The examiner can normally be reached on M-Th 7:30 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2883

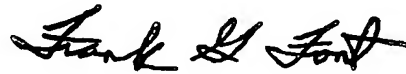
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Ryan Lepisto

Art Unit 2883

Date: 5/29/06



Frank Font

Supervisory Patent Examiner

Technology Center 2800